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Vietnam War's Ugly Hero, the Short-Take-off Plane

It Can Fly at Almost a Crawl and Carry a Heavy Load

Special to The New York Times

SAIGON, South Vietnam, March 6—This is a war of big, fast, beautiful, complicated planes—B-52's, Phantoms and MIG's. It is also a war of little, slow, ugly, simple planes.

A Phantom is effective in a dogfight against a MIG, and a B-52 is unrivaled as a truck for 750-pound bombs. But neither is capable of landing on roads, orbiting slowly over an infantry battle, or broadcasting propaganda above a Vietcong hamlet.

These jobs are reserved for a bewildering array of odd-looking, single-purpose planes operated by the Army, the Air Force and a private airline, Air America, that is financed in part by the Central Intelligence Agency.

The most exotic of the lot are short take-off and landing planes, known among pilots by the acronym STOL. They are capable of operating from strips no longer than a football field while carrying loads of as much as 1,200 pounds.

Powerful Engines and 'Fat' Wings

Why? The answer is difficult to translate from the special language of the aeronautical engineer, but most such planes have in common unusually powerful engines for their size, special fittings to enable them to fly very slowly, and "fat" wings.

"Fat" wings, that is wings whose cross sections are considerably thicker than usual, provide added lift. Air flowing over the bulging upper surfaces moves more rapidly than air passing under the relatively flat lower surfaces, creating a decrease in pressure and lifting the plane into the air more quickly.

The STOL airplane is capable of astonishing feats, according to George V. Calhoun, chief pilot for Air America. He says he has seen one such plane fly at 18 miles an hour, and insists that some of his aircraft can land in 75 feet—"if you want to go all out and operate the bird on the ragged edge of nothing."

Other fliers talk of flying similar planes backward, by throttling down to 35 miles an hour in a 40-mile-an-hour headwind.

Air America has a fleet of 78 planes and a staff of 235 pilots. Nearly all of its men learned to fly in the armed services. They are a surprisingly unflamboyant lot. They are fired upon almost every day, and five of their colleagues have been shot down in two years.

Operating from Tansonnhut Airbase, near Saigon and from two other bases, Air America ferries personnel of the C.I.A., the American Embassy and the Agency for International Development Mission, hauls all kinds of cargo and expects its pilots to be able to land on a soccer field or the main street of a village if necessary.

The airline uses all sorts of aircraft, but



Mechanics service a PC-6 Pilatus Porter, a short take-off and landing craft operated by Air America. Such airplanes with more powerful engines and "fatter" wings than normal operate on strips about size of football fields.

sends these types into the most primitive areas:

¶The DO-28 Dornier, a German built, twin-engine monoplane, which was used as a bomber by the Katangese air force in the Congo by the simple expedient of removing its doors and releasing the bombs with a winch.

¶The H-395 Helio Courier, built by the Helio Aircraft Corporation of Bedford, Mass., which is also used by the United States Information Agency in South Vietnam to carry a portable public address system over which appeals are broadcast to the Vietcong.

¶The PC-6 Pilatus Porter, designed and built by Swiss engineers for operations in the Alps and on glaciers, which is powered by an enormous turbo-prop engine with a propeller that can be reversed to act as a brake.

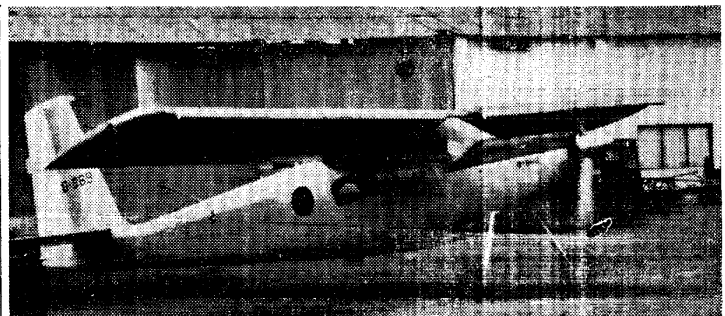
A Certain Esprit

The armed services also make use of STOL planes in Vietnam. Air Force pilots, making precipitous corkscrew approaches to avoid enemy fire, fly C-123 Providers and Caribous into dirt landing strips with cargoes of gasoline and ammunition and almost everything else. Forward air controllers hover over targets in tiny Cessna Bird Dogs, which resemble the private single-engine planes in use in the United States.

The Bird Dogs are so light that during operations near the demilitarized zone between South Vietnam and North Vietnam last fall pilots dug bunkers and rolled the planes into them to avoid damage by enemy mortar fire.

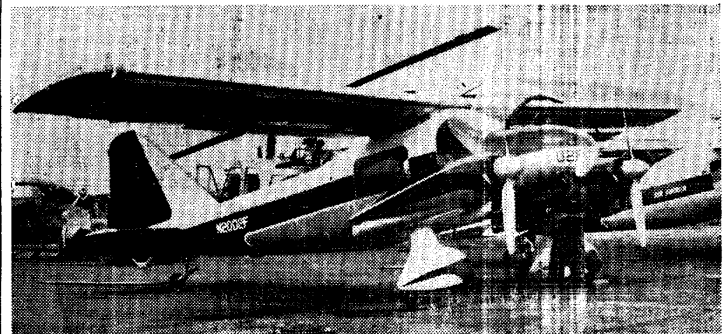
Because of the hazards of their work, forward air controllers fly with the esprit of the Lafayette Escadrille of World War I. Emulating a character in the comic strip Peanuts, one pilot donned a flowing scarf and christened himself the Red Baron. Others grow outlandish, heavily waxed mustaches.

The Army uses the Bird Dog principally as an artillery observation and reconnaissance plane. But Capt. Edward M. his puddle-jumper as a fighter-bomber. In one recent operation with the Vietnamese 25th Infantry Division he killed eight



The New York Times (by R. W. Apple Jr.)

The H-395 Helio Super Courier is used by United States Information Agency. It can carry a portable public address system over which appeals may be broadcast to the Vietcong.



Twin-engine DO-28 Dornier is a German-built aircraft. Katangese Air Force during Congo revolt used such craft as bombers by removing doors and cranking bombs out by winches.

Vietcong soldiers with high-explosive rockets.

Also in the Army's inventory are two transports produced by de Havilland Aircraft of Canada, Ltd., that were originally designed as bush-flying planes. They are officially named the Beaver and the Otter. But the Tansonnhut control tower, in deference to the plane's strange shape, greets the pilots of others:

"Saigon approach to Ugly 27..."

The H-395, the Helio Super Courier, is a high-wing monoplane powered by a piston engine. A short take-off utility airplane, its military designation is U-10A. It can carry six persons at a speed of 27 to 160 miles an hour.

The PC-6A Turbo-Porter is another short take-off design. Also a high-wing monoplane, it is powered by a turboprop engine. It can carry 10 passengers at speeds of from 40 to 174 miles an hour.

The C-123, manufactured by Fairchild, is a high-wing twin-engine assault transport powered by two piston engines. It has a 10,000-pound payload. It can clear a 50-foot obstacle—the standard military takeoff criterion—with 2,000 feet of take-off run.

The Caribou, Beaver and Otter all employ high wings that are relatively large in area and hence provide greater lift at low speed.

The Cessna Bird Dog, the O-1, is a light, conventional single-engine craft used by the Army during the Korean war for observation and reconnaissance and by the Air Force in Vietnam.

The Air Force has ordered 176 Cessna O-2's as replacement. The O-2 is a military version of the Cessna Super Skymaster, a twin-engine light plane with puller and pusher propellers, respectively in front and back of the cabin.